California Coastal Chinook ESU

Hatchery Program Assessment

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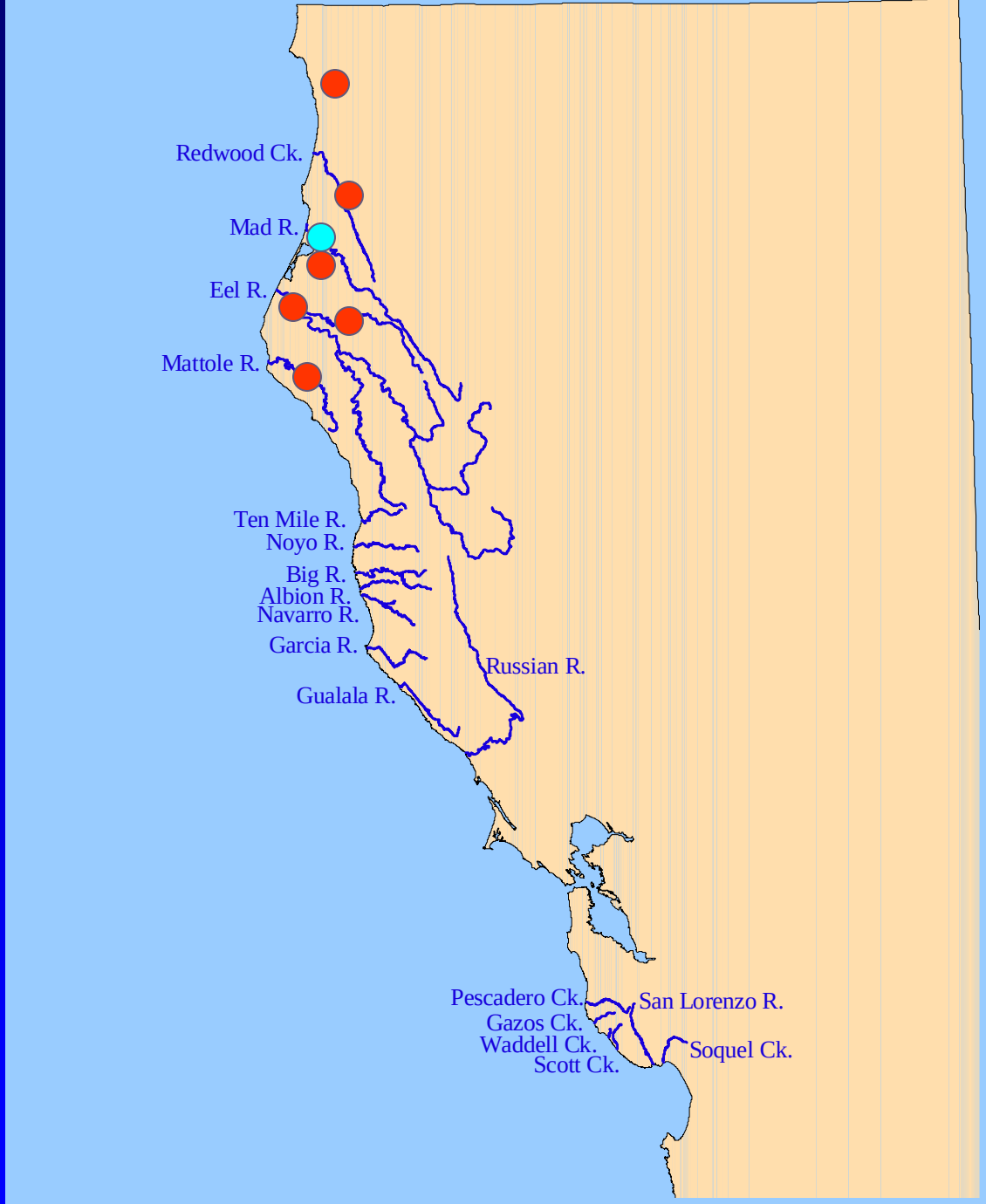
California Coastal Chinook ESU

- **Included in the ESU**
  - Freshwater Creek Hatchery program, Humboldt Fish Action Council
  - Redwood Creek Hatchery program, Eel River Restoration Project
  - Yager Creek Hatchery program, Pacific Lumber Co. (PALCO)
  - Hollow Tree Creek Hatchery program, Salmon Restoration Association
  - Mattole River Hatchery program, Mattole Salmon Group
  - Van Arsdale Fish Station egg-take program, California Department of Fish & Game
- **Not Included in the ESU**
  - Mad River Hatchery, California Department of Fish & Game

California Coastal Chinook ESU programs

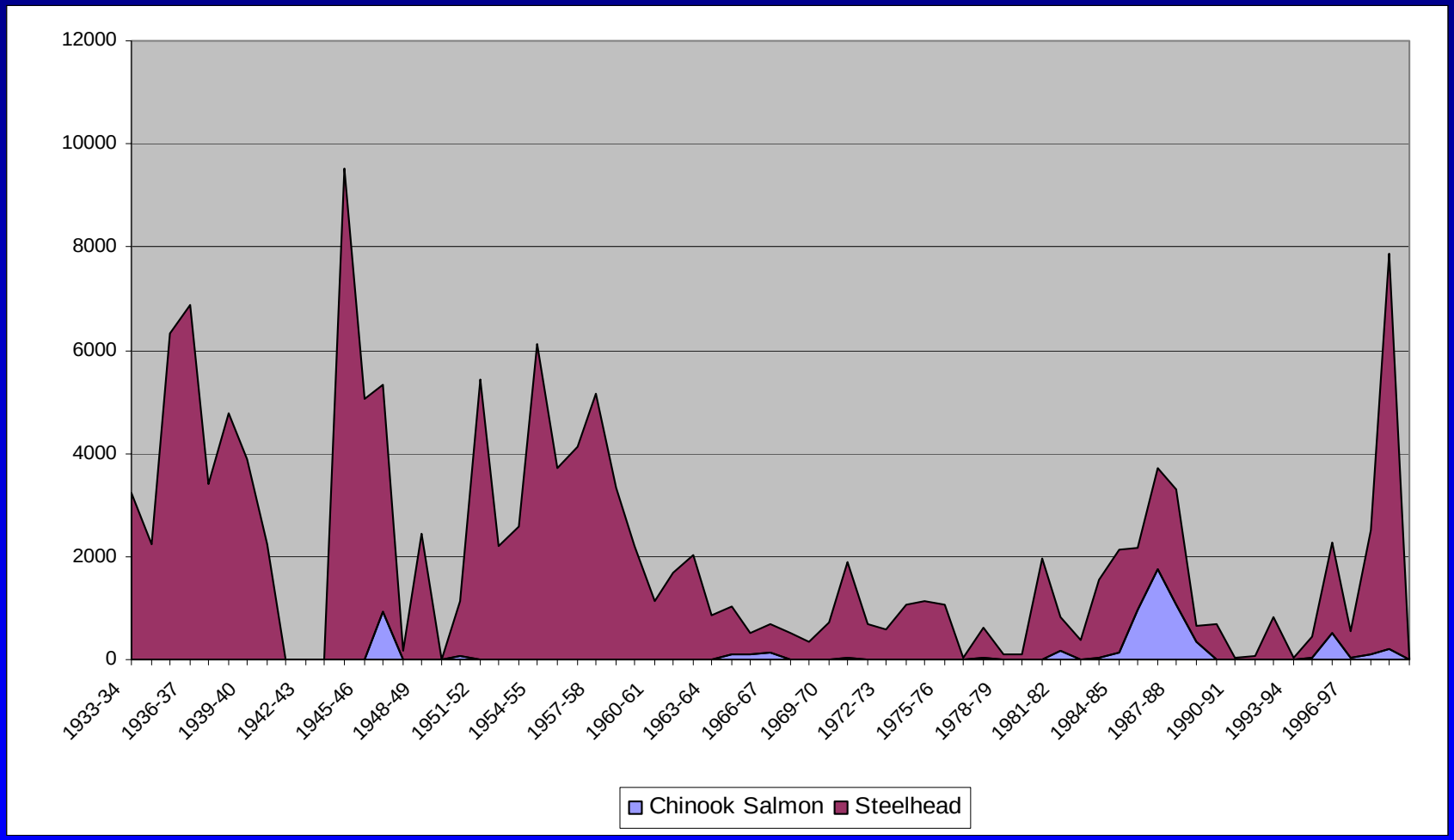
non-ESU programs



California Coastal Chinook ESU

Population area (hatchery stock)	Isolated or integrated	Program type	Purpose	Production goal	Years of Program
Artificial Propagation Programs that Produce Fish Included in ESU					
Freshwater Creek	Integrated	Smolt	**Restoration**	58,000	35
Yager Creek	Integrated	Smolt	**Restoration**	65,000	42
Redwood Hatchery	Integrated	Smolt	**Restoration**	80,000	21
Hollow Tree Hatchery	Integrated	Smolt	**Restoration**	185,000	25
Mattol River Hatchery	Integrated	All	**Restoration**	6,000	23
Artificial Propagation Programs that Produce Fish NOT Included in ESU					
Van Arsdale Fish Station	Integrated	Smolt	**Augmentation**	5,000,000	33
Mad River Hatchery	Integrated	Smolt	**Augmentation**	5,000,000	33

Van Arsdale Fisheries Station Annual Fish Counts 1933-1999



Viable Salmon Populations

Abundance
Productivity
Spatial Structure
Diversity

Effect on Abundance

- There has been no evident benefit to natural abundance from the cooperative programs, with the possible exception of Freshwater Creek Hatchery and the Mattole Salmon Group rescue and rearing activities.

- There has been a recent positive trend in population in Freshwater Creek.

- The Mattole Salmon Group rescues stranded fish and maintains them until water flows permit their release into the Mattole River. These actions sustain the population and allow for future spawning.

Effect on Productivity

- Hatchery program contributions to natural productivity have not been assessed. While there may have been some variance in some population numbers over the years, there has been little response in productivity overall.

Effect on Spatial Structure

- With the recent exception of Freshwater Creek, spatial distribution has not expanded, and at times has been reduced in other CC Chinook salmon populations with a hatchery program.

Effect on Diversity

- All cooperative programs utilize wild fish for broodstock, and distinguish their own production with an adipose clip.

Effect of Artificial Propagation on VSP Attributes California Coastal Chinook

Viability Criteria	BRT VSP Risk Score	Decreases Risk	Neutral or Uncertain	Increases Risk
Abundance	3.9	√		
Productivity	3.3		√	
Spatial Structure	3.2		√	
Diversity	3.1		√	

Recommendation: No Change to BRT's Finding

What is the biological status of the ESU in total (including hatchery stocks/populations, mixed populations, and natural populations)?

CC Chinook	Biological Status for the ESU in-total		
	"in danger of extinction throughout all or a significant portion of its range"	"likely to become endangered within the foreseeable future throughout all or a significant portion of its range"	Neither "in danger of extinction…" or "likely to become endangered…"
BRT's findings for the ESU natural components	24%	67%	9%
Workshop consensus finding			